

SURFACE MOUNTABLE CLIP SUITABLE FOR USE IN A MOBILE COMMUNICATION DEVICE

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ABSTRACT

A mobile communication device includes a printed circuit board (PCB); a radio frequency (RF) transceiver carried on the PCB; and an antenna coupled to the RF transceiver. A surface mountable antenna clip is mounted on the PCB for retaining the antenna. The clip is a metal structure having a plurality of planar sides generally formed into a U-shape. An opening formed by the structure is sized to receive and retain the antenna. One of the planar sides is used to support the structure and is mounted over a solder pad of the PCB. A hole formed through this planar side is configured to break a surface tension of molten solder over a solder pad of the PCB during a reflow soldering process, so that the clip is more stable and tends not to rotate out-of-position during the process. Legs extending from edges of this planar side also help to stabilize the clip during the process, and provide an increased surface area for the connection. In fact, if the initial Surface-Mount Technology (SMT) placement position of the clip is slightly skewed or shifted, surface tension forces will help the clip to move or rotate into the correct position. The legs also provide sufficient features to a vision system to correctly orient the clip on the PCB.

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